



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,911	12/14/2004	Rene Martinus Maria Derkx	NL 020516	6884

24737 7590 01/23/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

SINGH, RAMNANDAN P

ART UNIT

PAPER NUMBER

2614

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/517,911

Applicant(s)

DERKX ET AL.

Examiner

Ramnandan Singh

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Dec. 15, 2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 is a single means claim, where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every

Art Unit: 2614

conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor. See MPEP 2164.08(a).

Since claims 2-7 are dependent from claim 1, they are also rejected.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-4, 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, the phrase "and/or" renders the claim indefinite because it is unclear whether the limitation includes either or both. Claims 3-4 being dependent from claim are also rejected. See MPEP § 2173.05(d).

Regarding claim 7, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. Further, regarding claim 7, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Margo et al [1993 IEEE, ICASSP-93, 27-30 April, Vol. I, Pages 161-164].

Regarding claim 1, Margo et al teach an echo canceller comprising a dedicated non-stationary (i.e. time-varying) echo canceller to cancel only the time-varying echo components [Figs. 1-6; Page I-161, Section 2 to Page I-163, Section 3].

8. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Cannalire et al [US 5,414,766].

Regarding claim 1, Cannalire et al teach an echo canceller comprising a dedicated non-stationary (i.e. time-varying) echo canceller to cancel only the time-varying echo components [Figs. 1-4; col. 3, line 47 to col. 4, line 31; col. 5, line 53 to col. 12, line 58].

Regarding claim 2, the non-stationary echo canceller comprises a non-stationary echo estimator [col. 6, line 35 to col. 7, line 54].

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 3, 5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cannalire et al as applied to claims 1 and 2 above, and further in view of Reesor et al [GB 2330745 A].

Regarding claim 3, although Cannalire et al teach detecting the presence of a very low level noise (i.e. stationary noise) [col. 13, lines 61-65], they do not provide details on estimating the noise. So one of ordinary skill in the art would have been motivated to seek any arrangement that provides an estimate of the noise, such as Reesor et al.

Reesor et al teach the echo canceller, wherein the stationary echo estimator is a stationary noise estimator [Fig. 2; page 9, line 23 to page 10, line 26].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Reesor et al with Cannalire et al in order to

check whether the input signal is noise or active signal [Reesor et al; Page 9, lines 3-4].

Regarding claim 5, Reesor et al further teach the echo canceller shown in Fig. 1, the echo canceller comprises an adaptive filter and a residual echo processor (i.e. NLP) coupled to the adaptive filter, which residual echo processor is equipped with the non stationary echo canceller (i.e. echo tail controller) [Fig. 2; page 9, lines 1-8; page 13, line 7 to page 14, line 19].

Regarding claim 7, Reesor et al further teach the echo canceller for communication device, such as for example a speakerphone or teleconferencing device, a telephone device, in particular a mobile telephone, a hands-free telephone or the like [page 1, lines 4-7; page 4, lines 3-7], characterized in that the communication device comprises one echo canceller [Figs. 1-2]. Here Examiner assumes one echo canceller that meets the limitation "one or more echo cancellers" as claimed.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Cannalire et al and Reesor et al as applied to claim 3 above, and further in view of Martin [Signal Processing VII, EUSIPCO, pages 1182-1185, Edinburgh (Scotland, UK), Sept. 1994].

Regarding claim 4, although Reesor et al teach that the noise level can be estimated with any common, noise level detection algorithm [Page 10, lines 3-5], they

Art Unit: 2614

do not teach expressly a specific algorithm to estimate stationary noise. So one of ordinary skill in the art would have been motivated to seek any known algorithm that estimates stationary noise, such as a Martin's algorithm

Martin teaches an algorithm based on spectral subtraction using minimum statistics to estimate a noise floor [Fig. 2; Section 2 through Section 4].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the algorithm of Martin with Cannalire et al and Reesor et al in order to estimate a noise floor for both stationary and non-stationary noise without using a speech activity detector [Marin: Section 5 (conclusion), lines 1-3].

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Cannalire et al and Reesor et al as applied to claim 1 above, and further in view of Genter [US 5,293,784].

Regarding claim 6, the combination of Cannalire et al and Reesor et al does not teach expressly the echo canceller wherein the echo canceller comprises comfort noise inserting means.

Art Unit: 2614

Genter teaches an echo canceller (20) shown in Fig. 1, wherein non-linear residual echo suppressor (82) comprises comfort noise (i.e. artificial noise) inserting means [Figs. 1-2; col. 4, lines 16-26; col. 6, line 50 to col. 8, line 22].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Genter with Cannalire et al and Reesor et al in order to inject comfort noise into the nonlinear suppressor so that the average level in spite of the variation in operation of the non-linear processor which occurs with the presence or absence of a signal from the near-end speaker and the far-end speaker, respectively is maintained [Genter: col. 1, lines 24-30].

Response to Arguments

13. Applicant's arguments filed on Dec. 15, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

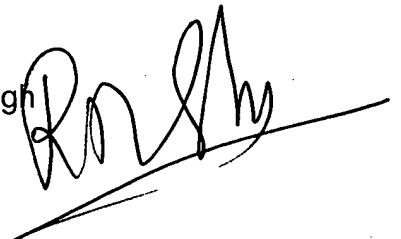
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

Art Unit: 2614

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh
Examiner
Art Unit 2614

A handwritten signature in black ink, appearing to read 'Ramnandan Singh', is written over a horizontal line.